

Abstract

A method and system is presented for storing data in data cells that contain only a single element of data. Each data cell includes four components: an Entity Instance identifier ("O"), an Entity Type identifier ("E") an Attribute Type identifier ("A"), and an Attribute Value ("V"). Groups of cells with identical O and E values constitute a cell set, and contain information about a specific instance of an entity. Every cell contains a unique combination of O, E, A, and V, meaning that each cell is unique within any particular information universe.

Relationships between cell sets are created through the use of linking or synapse cells that are created through a process of transmutation. In transmutation, two cell sets are associated with each other through the creation of two synapse cells. The first synapse cell has the O and E values of the first cell set, and has an A and V value equal to the E and O value, respectively, of the second cell set. The second synapse cell has the O and E values of the second cell set, and has as its A and V values the E and O value, respectively, of the first cell set.

Through the use of cell generations, it is possible to store information about attributes, entities, relationships, constraints, and default data formats in the same cell listing as the cells containing the actual real-world data. As a result, the data in a data cell can be considered self-identifying. The present invention also provides a way to normalize data using data pool cell sets. The data cells themselves can be stored in multiple, co-existing storage trees that are specialized for increased data query efficiency.

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